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# *THE* Macdonald Farm Journal

VOLUME 15 No. 1

SEPTEMBER 1954

F A R M . S C H O O L . H O M E







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# As we see it

## On Canadian Farm Policy

It is relatively easy to lay out a blue print of United States or United Kingdom farm policy. But for Canada one cannot devise a simple pattern or design and say: "Here is Canadian agricultural policy".

Our farm policy is the sum total or result of a long series of legislative measures. Most of them add a little; some bring abrupt change. As illustrations of farm policy measures in the past two decades we might cite: in 1935, the establishment of the Canadian Wheat Board; in 1939, the Agricultural Products Cooperative Marketing Act; in 1941, the Feed Freight Assistance Programme; in 1944, the Agricultural Prices Support Act; in 1949, the Agricultural Products Marketing Act. If one ties together these pieces of legislation and many others, a definite and fairly comprehensive policy emerges — though not in blue print form.

What objectives are pursued by such a policy? What interests of agriculture and the Canadian people are advanced?

*First*, Canadian farm policy makes a modest attempt to underwrite farm incomes. Every farmer producing dairy products gets some benefit from the price support on butter. The income of the grower of cash grains is guaranteed by the modest initial Wheat Board payments on wheat, oats and barley. Over a wide range of other products, the government has discretionary powers to support prices. These have been used from time to time, but at little cost to the public treasury.

*Second*, our farm policy undertakes to make farm production more efficient. This can be illustrated in terms of Freight Assistance Programme, the

Maritime Marshland Rehabilitation Programme, and the research work of government scientists.

*Third*, our policy undertakes to give the farmer a degree of control over the marketing of his products. Under the Cooperative Marketing Act of 1939 the government guarantees credit so that the products of many farmers may be marketed through cooperative or pooling arrangements. Quebec apples, Maritime potatoes, and Ontario cheese have been marketed under this programme. If price should fall sharply during any marketing season the credit advances become minimum prices or support prices. Under the Agricultural Marketing Act of 1949, provincially constituted commodity boards are authorized to control marketing of their particular products, both within the Province and beyond its borders.

*Fourth*, Canadian policy attaches importance to expanding exports of farm products.

*Finally*, our policy is one of respecting the rights of farmers to produce and market what they choose. Along with this guarantee to individual farmers goes a scrupulous respect for provincial rights in agriculture.

All these objectives have been pursued with little drain on the public treasury — so little, in fact, that one might describe this as an objective of policy.

We feel that a policy which carries out such legislative measures as those enumerated and which pursues the objectives described, clearly advances the interest of Canada and her farmers. At the same time it is not a perfect farm policy. Within such a context, this *Journal* will from time to time comment on specific programmes or policy measures.

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# Are Sheep Coming Back?

by S. B. Williams

**The sheep industry as it affects the Canadian farmer is discussed in the light of past and present problems in this first of two comprehensive articles written by an expert on sheep problems.**

THE rearing of sheep is one of the oldest forms of animal husbandry in this country. While meat abounded in the forests and skins could be used for certain types of clothing there was still need for wool which could be woven by the pioneer housewives into socks, shirts, and underclothing to protect the family against the rigours of a Canadian winter. Due to their relatively low feed and space requirements, sheep could be transported in the small sailing vessels across the thousands of miles of ocean with much greater ease than could other classes of stock and, with their high reproductive rate and rapid maturity, flocks could soon be established.

The earliest report of sheep in this country was around 1650 when reference was made to the sheep of the French colonists. Whether these animals were of a definite breed is not known but from the descriptions furnished it would seem that in type, conformation, and wool quality they resembled the Cheviot. It would appear that the choice was wise for certainly a very active sheep would be needed to make its living in the undeveloped country and avoid the many predators that roamed the forests.

Sheep breeding received a boost around the end of the eighteenth century with the arrival of the United Empire Loyalists, many of whom brought their small flocks of sheep with them. Importations from Great Britain added to the preponderance of sheep of British origin in the country and soon the only sheep to be found were from this source. Since then Great Britain has provided large numbers of stud animals of the different breeds.

In the earlier stages of the development of the sheep industry in Canada, the primary concern of those interested in stimulating sheep husbandry would seem to have been the fostering of such importations. This was accomplished largely through Provincial Government subsidies of such movements and by the payment through Fairs of bonuses to recently imported prize winners.

Sheep reached the western provinces much later. Exact information on the date is not available but the first census in which sheep were listed for the area that is now Saskatchewan and Alberta was that of 1891 which recorded 65,000 head. The sheep population of those

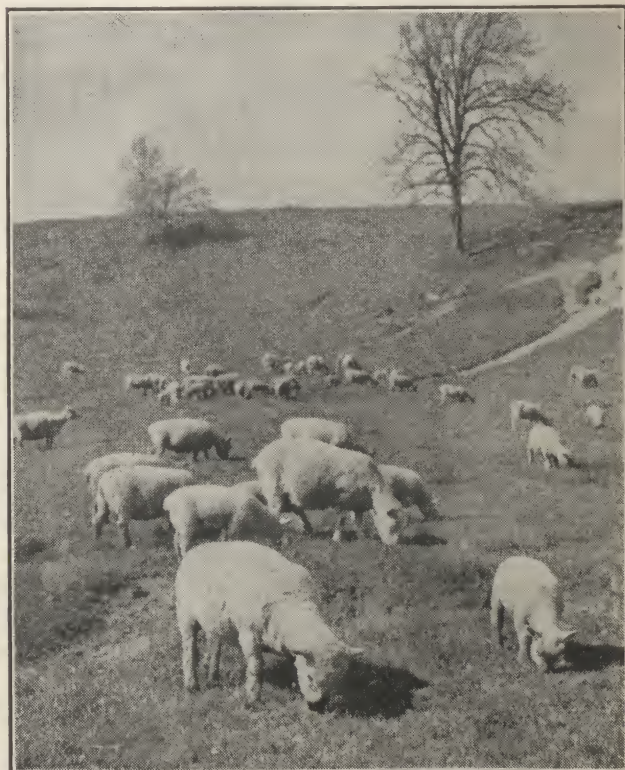
provinces then rose rapidly until 1941 since when it has shown some decline.

Due to the great diversity of climatic conditions found across Canada, two separate and distinct types of sheep enterprise have been developed. These may be called the range sheep industry and the domestic flock industry, and because of the wide differences in methods, breeds, and backgrounds, these will be considered separately.

## Range Sheep

Range sheep are concentrated mainly in southern Saskatchewan, Alberta, and British Columbia. Here they are grazed in bands of approximately 1,000 ewes, each band being under the constant care and scrutiny of a shepherd whose duty is to protect them from predators as well as to supervise their grazing. Range sheep normally are grazed throughout the greater portion of the year, receiving supplemental feed only when snow or extremely severe weather curtails or prohibits grazing.

Animals continuously subjected to such rigorous conditions must possess certain characteristics that are not considered essential in sheep selected for less severe climatic and nutritional regimes. Hardiness and a well-developed herding instinct are essential while excessive face cover and wrinkling are considered undesirable. Fat



Quebec and the Maritimes could support a lot more sheep on farms.



lambs are not normally marketed from such flocks; feeder lambs are the usual product. Great emphasis is placed on both quantity and quality of wool. Carcass excellence is generally sacrificed in favour of the foregoing characteristics.

The first sheep found in the range areas were mainly of Merino extraction, were small and carried a dense, low-yielding fleece. Excess face cover and wrinkling were problems, while the lambs, due to poor fleshing and late maturity, were of little value as feeders. Mechanization of the West meant that areas formerly regarded as sheep lands could economically grow wheat in good years and thus to compete in terms of return per acre a sharp improvement in sheep productivity was necessary.

### Changing The Breed

The first step taken by the ranchers to accomplish this was a switch to the Rambouillet breed followed later by the mating of these sheep to rams of British breeds. While this latter program gave excellent immediate results yet the use of the cross-bred females in the breeding flocks was disastrous due to the loss in hardiness and flocking instinct. Wool values fell because of the increase in variability of fleece types. In addition a mixed lamb crop that was difficult to market was the rule.

Two separate approaches to the problem are being used by the Experimental Farms in co-operation with the prairie universities. The two methods in use are the formation and stabilization of certain of these long-wool crosses and the improvement of the Rambouillet. Considerable progress has been made. Two new types are now available and are being thoroughly tested. These are the Canadian Corriedale, which has been developed from Lincoln X Rambouillet crosses by the Experimental Station at Lethbridge, Alta., and the Romnelet, based on Romney X Rambouillet crosses, and which is a product of the Range Experiment Station at Manyberries, Alta. Both these breeds possess most of the good points wanted in range sheep. At the same time improvement through breeding and selection has gone on in the Rambouillet. At the present time this breed, while not at the same level in carcass quality as the two breeds mentioned above, has shown great improvement. In the better Rambouillet flocks face cover and wrinkling are no longer a problem and wool yields have been increased with no apparent loss in hardiness and flocking instinct.

### Domestic Sheep

As might be expected, because of the policy of sponsoring the importation of animals, the early breeding trials and governmental policies were chiefly concerned with grading-up of flocks through the use of purebred sires

on common ewes. Over the years this has been the most widely used breeding program in this country. Under such a scheme the operator selects the breed that he wishes to have and develops a flock of that breed through the continual use of purebred rams. For small flocks this system has the advantage that all female replacement stock is selected from within the flock thus avoiding the trouble and expense of selecting and purchasing female stock and eliminating the possibility of introducing disease through such purchases.

The chief difficulty has been that very often the choice of breed was not based on a serious consideration of the attributes of the various breeds available. Consequently, since the operator did not convince himself as to the breed best suited to his conditions and desires, he was easily swayed. Many farmers would use rams of one breed for a while, then change to another, in many cases such changes being made yearly. Such a program could only result in an inferior flock of mixed, mongrel stock which could be a source of neither pride nor profit to its owner.

Many trials were conducted to demonstrate the value of a properly applied grading-up program and these clearly indicated that it need not be a lengthy one irrespective of the type of ewe used as a basis for the flock. At the Experimental Station at Lacombe, Alta., six lots of range ewes were graded-up through the use of rams of six different breeds, one breed being used on each lot. From this work it was concluded that after three or four top-crosses the graded-up animals resembled the purebreds very closely in appearance and performance.

With the use of the many British breeds in grading-up schemes and the ebb and flow of popularity of the various breeds, there has been a concurrent alteration in the type of many of these breeds to suit breeder demands. In addition there has been, perhaps unfortunately, alterations to suit show-ring fads and fancy points. For example, the Shropshire has been changed from a relatively large, open-faced animal to the wooly-faced, extreme mutton-type animal seen to-day. However, in England the two types are maintained and at the Central Experimental Farm, Ottawa, a trial is now under way to study the relative merit of the two types for lamb and wool production. A flock of purebred Shropshire ewes was divided into two lots on the basis of face cover. The ewes with the lesser amount of face cover were mated to an imported open-faced Shropshire ram while a standard type ram was used on the other lot. Replacements are being saved from within each flock. The preliminary results would indicate that the open-faced type is heavier and more rapid growing and that the standard type is superior in carcass quality.



# On Lime And Liming

by W. A. Delong

**A Macdonald College expert gives us the facts on a problem which is very important to Quebec and Maritime farmers.**

**I**s liming necessary? For individual farms or fields there is no simple yes or no reply. The answer depends upon the crop to be grown and the condition of the soil. Generally speaking, however, one might say that liming is NOT necessary unless the soil is acid. This, of course, leads the farmer to say, "Well, is my soil acid, and how do I find out whether it is or it isn't?"

The only completely reliable answer to this is provided by a soil test made on a sample taken and handled in such a way as to represent the soil in the field. When properly done the acidity test is the most reliable of the soil tests so far available.

The result of the test is reported as intensity of acidity, commonly called pH. Now, the acid intensity or pH scale is an upside-down kind of scale; the *smaller* the pH value the *stronger* the acidity. For example, when the pH is between 4 and 5 the soil is *strongly* acid, between 5 and 6 *moderately* acid, and between 6 and 7 *slightly* acid.

Incidentally, it is best to have both soil and subsoil tested for acidity while you are at it.

Soil surveys have shown that, unless they have been limed or treated with wood ashes, most of the soils owned and farmed in the Eastern Townships are more or less acid. Even those which have received lime or ashes may be acid because the effects of both, under our moist climate, wear off with time. However, they may not be acid, especially if lime or ashes have been used recently. That is why I said at the beginning that no simple yes or no reply could be made to the question, 'Is liming necessary?', in case of individual farms or fields. In addition, we have some soils which are not naturally acid, especially in the flat-land area of southwestern Quebec.

## Should Acid Soils be Limed?

Probably the next question is, why should acid soils be limed? The answer to that one is that acid soils are half-dead, or more than half-dead. They may and do grow good trees, but they are not alive enough for productive cropping.

There are two principal reasons for the sick condition of acid soils. One of these is the presence in them of substances poisonous to crop plants, especially to legumes, but also to other crops such as barley. These poisonous substances are destroyed or removed as a result of liming. The second reason is that the plant food in such soils is much more slowly and much more difficultly

obtainable by crop plants than it is in soils which are not acid or are only feebly acid. This is particularly true of the phosphorus naturally present in the soil or applied as a fertilizer.

A live soil contains great numbers of actively-working bacteria which set free the plant food of the soil for the use of crop plants. These bacteria do not like an acid soil. Indeed, some of the important kinds of them, from the standpoint of economical crop production, cannot live in strongly acid soils. In order to be a healthy home for fully active beneficial bacteria the soil should not be more than feebly acid that is a pH  $6\frac{1}{2}$  to 7, and it should contain lime and phosphorus in good supply. This is one of the reasons why lime and phosphate in combination often give much better results than either alone. In the long run, liming increases the availability of the phosphorus in the soil, to both bacteria and to crops, by improving living conditions for both. However, the bacteria get away to a quicker start when phosphate is added to the soil as a fertilizer. When soil conditions are favourable the bacteria feed upon the organic matter or humus and set free from it nitrogen and phosphorus in forms suitable for use by crops. They also assist in setting free potassium.

Liming, therefore, increases crop production by providing better living conditions for soil bacteria, the greatest activity of which under the improved conditions better the plant food situation for all types of plants. This activity is especially important for the proper supply of nitrogen to non-legumes. Liming also improves living conditions for plants, particularly the legumes, but also for certain other crops such as barley, by destroying or removing the poisonous substances formed in acid soils.

It is, of course, possible to obtain good yields of some crops under acid soil conditions, provided that sufficient



Good crops depend on proper soil conditions,



plant food is supplied to these half-dead soils. In general farming, however, it is more economical to increase the supply of plant food indirectly by improving living conditions for the bacteria of the soil than it is to attempt to supply all or the larger part of the plant food needed as fertilizer.

#### How Much Lime Should Be Used?

Granted that liming is, in general, a beneficial and profitable practice a logical question to follow is, how much should I apply? This question cannot be answered accurately by a pH test alone. This is because of the fact that very different amounts of lime are required to correct the acidity of organic matter (or humus) and of clay when both have the same intensity of acidity or pH value. Thus, at the same pH, a given weight of organic matter may require five times as much lime as the same weight of clay. That is to say, a sandy soil high in organic matter may require more lime than a clay soil low in organic matter even when the two soils have identical pH values.

Probably the best solution of this problem is to apply an economical amount of lime and to have the soil re-tested before seeding again, continuing in this way until a satisfactory level, preferably a pH of  $6\frac{1}{2}$  to 7, is reached and maintained. A common recommendation is to apply two to three tons of good quality ground limestone per acre on soils of moderate acidity, that is, of pH 5 to 6. Remembering that pH 5 is much more strongly acid than pH 6, the larger amount will be used in the range pH 5 to  $5\frac{1}{2}$ . In cases where the subsoil is definitely less acid than the topsoil smaller amounts may be satisfactory.

Application of moderate amounts of lime is recommended for a number of reasons. First, the cost of liming improvement is spread over a longer period. Secondly, if a large amount be used in a single application there is greater danger that some of this may be lost from the soil without benefit in crop production. Finally, because when large amounts are applied at once there is danger of producing plant food deficiencies, for example, of bringing about a need for the use of boron.

#### What Is Good Quality Limestone?

Probably two questions will be raised by the statements which have just been made, namely, What is good quality limestone? and, how should it be applied?

Apart from cost per ton, there are two requirements which must be met if liming is to give the best results. First, it must be sufficiently pure. Preferably limestone for agricultural use should contain 80 per cent or more of carbonate and, of course, the purity should be guaranteed. Secondly, it must be ground to a satisfactory degree of fineness, which also should be guaranteed. Experiments have shown definitely that fine limestone is much more quickly effective in reducing soil acidity than is coarse stone. On the other hand, an excessive degree

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of fineness is expensive and, except for special purposes, unnecessary.

### Watch The Size

Work in Ohio has shown that pieces of limestone larger than about one-twentieth of an inch in diameter were of little practical value. Stone of this size had no appreciable effect on soil acidity within eighteen months. When ground to one-half to one-third of this size, however, the limestone was rapidly effective in reducing soil acidity. It was concluded that for best results the greater part at least of the stone should not be larger than about one-fiftieth of an inch in diameter. This conclusion applied to both ordinary and dolomitic limestone. Numerous other experiments support the results of the Ohio workers. In case immediate results are wanted, that is within a year from time of application, still finer grinding will be needed, but the extra cost of this very fine grinding must be taken into account.

### How Should Limestone be Applied?

It has been demonstrated experimentally that the movement of lime in soil is very slow. Experiments also have shown that greater increases in yield of legumes are obtained when limestone is mixed with the whole plow layer than when it is drilled, and that improved root development and nodulation of the roots occur only in those parts of an acid soil with which the lime has been mixed. The practical conclusion to be drawn from these results is that, for best results, the lime should be thoroughly mixed with the soil, and that it should be placed where it is needed, preferably in both subsoil and soil where both are strongly acid.

A major cause of poor stands of legume crops is soil acidity. Further, a good legume crop benefits succeeding non-leguminous crops. Therefore, the logical place and time to apply lime is where and when the legume will receive the greatest benefit. Since the action of moderately fine limestone — such as has been recommended — on an acid soil is rather slow, it should be applied in advance of the seeding of the legume. This fact, and the pressure of work at seeding make fall application desirable. Further, if applied at this time, frost action will aid in mixing the limestone with the soil.

### Potato Damage And Grading Equipment...

Reducing tuber damage to a minimum during harvesting operations is essential to maintain the grade quality of marketed potatoes. To avoid bruising them, beaters should be operated with caution where potatoes are near the surface. Digging injury may be reduced by padding the parts of the machine in contact with the tubers, including an application of tar undercoating to the chain so that the bars will carry a padding of soil or by using rubber tubing on the chain bars. Picking directly into bags attached to a picking belt with hooks on a board to

hold the bag open so that it may be filled and dragged between the feet of the person picking, or the use of rubber covered wire baskets that do not damage the potatoes is desirable. Handling damage may be almost eliminated by picking into wooden boxes for storage or transportation to the grader.

Types of graders include rotating rubber spools, wire mesh belts and oscillating or rotary screens. The wire mesh and other screen type machines should be used with care. The rubber spool type handles the potatoes with a gentle action that removes much of the soil while the potatoes are being sorted.

In all types of graders essential parts are — a feed hopper or belt, a sizer, a picking belt or table where defective potatoes and foreign matter are removed and a bagging device. Much of the damage in grading is due to sharp edges on the hopper or feed; overloaded or steep elevator belts and rolling back of potatoes; and to rough handling in bagging. Padding of rough parts, care in handling and slight modifications in equipment will eliminate much of the damage caused in grading. Belts or rollers should not run too fast for proper sorting or culling, and should be wide enough that the potatoes are not crowded over the picking table. It is desirable to have the grader and elevators adjusted so that the potatoes will roll, not drop, from one part to another and so avoid cuts, bruising and skinning of the tubers. Hand operated machines will grade from 50 to 150 bushels per hour, while power graders of up to 500 bushels per hour capacity are available.

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## Records Fell At Waterloo

Waterloo, with an assist from the weatherman, (the rain actually stopped for the days of the fair) set up a record both for number of entries and for spectator attendance during its three-day stand, August 6, 7 and 8. More than 13,000 people paid their way into the grounds to see the exhibits, visit the Midway and watch the races and the stage shows.

The fair grounds are not laid to accommodate crowds such as these, however, and better parking facilities are badly needed. Every available inch of space near and around the grounds was in use on Sunday, with some cars even parked in the Arena building. The parking of cars right in the grounds themselves may be necessary; we realize that exhibitors and booth attendants like to be able to drive as close to their exhibits as possible. But with a relatively small area such as at Waterloo, these parked cars turn out to be a nuisance to the general public.

Be that as it may, the fair as a whole was a huge success. Livestock entries were more numerous and better, except in the beef cattle classes, where one lone Hereford calf appeared in the junior show. On the other hand, there was quite a hog show this year, while there were none at all out last summer. Vegetables were down considerably in numbers, which is not surprising, considering the lateness of the season. Horse lovers found plenty to admire at the horse shows, and the racing card

was full, with some would-be entries having to be turned away.

In dairy cattle showing, Floyd and Sanborn and J. A. Lataille both had entries in most of the Guernsey classes, with the honours pretty evenly divided. Sanborn's entries stood for the championships while the reserves went to Lataille, but the latter took the ribbon for the best calf and the Quebec Guernsey Breeders' special prize. His breeder's herd and junior get of sire also took firsts, with Sanborn taking the other group classes, and also the prize for the best herd.

In most of the Jersey classes the B.A. Ryan and L. de Garston entries fought it out together, with Ryan the heavy winner. He saw the senior and grand male championship go to de Garston, but took all the other except the reserve junior female which went to A. Hadlock. The best herd and best calf prizes also went to Ryan, but de Garston animals paid off for him in the progeny of dam and junior get of sire classes. Ryan won the Eaton trophy for the best herd of dairy cattle in the livestock parade.

Lucille Davis is coming to the fore with Ayrshires, this year taking the prize for the best herd of the breed the senior and reserve grand male championship the reserve and grand female championship, along with the senior herd and progeny of dam groups. The Ayrshire show was a very large one for Waterloo, with nine

### JUDGES AT WORK



Prof. Maw places the poultry under the watchful eye of Mrs. Stanley Gould, acting chairman of the Poultry Committee.



Mr. Slack in the flower exhibit. Watching him judge are F. Willey, Mrs. O. P. Quilliams and Mrs. Lindsay Martin.



different exhibitors sharing in the prize money, counting in the junior calves. W. Paquette had the junior and grand champion bull, with reserve junior going to A. Chagnon. In the female classes, Chagnon also had the senior and grand champion. R. Beaudry showed the junior and reserve junior, and the junior herd and junior get of sire in the group classes, with Chagnon taking the senior get.

Holsteins also held their end up in point of view of numbers and quality, with Marshall Miller, G. R. Gladu and John Beerwort's herds fighting it out for the honours. Gladu was the largest winner, though John Beerwort had the reserve senior male and the reserve grand female champions. Miller showed the grand champion bull and Gladu's entries took the other top ribbons as well as all the group classes but one, Miller getting the senior herd. Miller entries were also judged the best herd of the breed in the parade.

Arcade Edoin and L. G. Ares were showing Canadian cattle and the Edoin entries stood first in every class.

The sheep show was relatively small with only three exhibitors, Slack Bros., J. A. Lataille and C. H. Persons,

but all the popular breeds were represented, Persons showing Oxfords, Lataille Leicesters and Slack Bros. the other breeds.



The grand champion and the reserve in the junior Ayrshire show held by Yvan Paquette and Raynald Gagnier.

## Where Will Hog Prices Settle?

The steady skid of hog prices since their late May and early June peak has many people wondering just what levels are in prospect this fall when the expected increase in market volume arrives in full force.

To make any kind of an accurate prediction of what may be in store pricewise requires first of all a forecast of probable total supplies. Last year marketings in the final quarter of the year (October to December) averaged 102,300 weekly, reaching a peak volume of 116,000 the last week in November. Originally, D.B.S. surveys indicated an increase as high as 35 per cent might be in store this fall but the latest June survey has cut this by more than half, indicating an increase of only 16 per cent in the pig crop now being finished for market. Even if this is correct, marketings this fall may average from 115 to 120 thousand per week, with peak runs of at least 130,000 hogs.

The next question which arises is how much pick-up in domestic pork purchases can be expected in view of lower prices, but also keeping in mind that beef supplies may also be more plentiful and cheaper. Even accepting a conservative forecast level of marketings this fall, and adopting an optimistic view of the trend of domestic pork sales, makes it appear evident there will be an export surplus.

With overseas market prospects for bacon still rather obscure, it appears that the United States may remain the best outlet for surplus Canadian pork products this

fall. The prospects are for an increase of around 13 per cent in U.S. fall hog marketings, with the seasonal increase likely coming earlier than usual and heavier marketings likely to be spread out over a longer period instead of building up to a high November peak.

With regard to U.S. hog price trends this fall, the last issue of the U.S.D.A. "The Livestock and Meat Situation" had the following to say:

"Price trends for any class of livestock are usually erratic in a period of readjustment. This will probably prove to be the case for hogs this year. Hog prices may vary considerably this summer, and they will trace a general seasonal decline until late fall. The overall decline will be greater than in an average year and prices will be lower than in the same period last year. However, prices are expected to remain favorable to producers. The hog-corn price ratio likely will stay somewhat above its long-time average."

Last year the average price of 200-220 lb. barrows and gilts at Chicago reached their seasonal low of \$20.50 (live weight) by mid-November, so it seems they may possibly fall below the \$20 mark this year.

On this basis it seems possible that our hog markets this fall will continue a seasonal decline as supplies increase and may eventually settle out at a level somewhat below the present market, but still above the government floor level (\$23.00 Toronto, Montreal) which was established in January 1, 1953 and has not been rescinded.



# Telling Our Story

**W**E'RE always saying that the farmer has to tell his story to the public in loud and unmistakable terms. This is vitally important when the farm population is gradually becoming a smaller percentage of the whole population. We are thumbing through a C.F.A. publication recently when we came across the following which we thought was worth repeating.

We have in mind a recent experience of the president of the CFA in meeting with a group of city women with whom he discussed matters pertaining to farm life and farm policies. He was astounded to find not only an almost complete inability to understand, but, what was more appalling, an apparently deep-rooted resentment against farmers and farm policies, an attitude that lacked reason, but that seemed to emerge from an inbred antagonism to farmers and their ways.

Fortunately that experience is not as universal as it has been in the past, and there are many urban people who have a sincere desire to work with rural people to create a better understanding.

Through organization, and the development of their social, economic and educational activities, Canadian farmers down through the years have compelled recognition of their rightful status as citizens capable of ably handling their own affairs, and playing their due part in the nation's business.

## Problem Still With Us

But the problem of better urban-rural relations still confronts us, and farmers and their organizations must accept some of the responsibility of bringing about the needed improvement. On the other hand, they are entitled to the co-operation and sympathy of urban groups, who also have a definite responsibility, and incidentally much to gain in helping to bring about a more understanding relationship.

On this subject, some very good thoughts are expressed in an article by Roy Battles, in a recent issue of the "National Grange Monthly", the official organ of the National Grange, one of the four national farm organizations of the United States.

Mr. Battles says in part:

"One of the many primary tasks (of farm organizations) is to tell accurately 'the farm story' to the urbanite. He now represents 85 percent of the population. If the farmer is to get a square deal, the non-farmer must to a considerable degree, sympathetically understand his story. This is not an easy task. Gone are the days when prac-

tically every city family had Sunday dinner at Grandpa's farm. Today they would not even recognize the maze of modern tools and equipment that have been responsible for the revolution in the production of food and fibre.

## False Beliefs

"No longer does city-bound farm youth dilute materially the urban population. While nearly half of our young people still move cityward, they do little to bring about any real improvement of rural public relations. Numerically, they hardly make an impression. There is not enough of them to dispel the belief that is prevalent in many non-farm circles that a poor farmer is one who has to wash his own Cadillac.

"Long since dead are the days when rural people had no public relations problem because practically everyone made his living in the country. This era vanished when some smart-aleck dubbed the farmer a 'hayseed'. This slur lasted until the depression. When millions of farms were going through the wringer of bankruptcy and the western soils were 'dust bowling', sympathy swept across the nation. This lasted until World War II. It was only then that the men of rural America came fully into their true light. Urbanites began to recognize these men for what they really were . . . skilled scientists and practical modern businessmen, with a variety of skills that are matched only in a few segments of the economy. This is where we are today. We have much to lose. Will we be able to hold our present position in the struggle for the minds of men?"



Let's tell the consumer that farming is hard work too.



## Large Litters For Large Profits

EVERY hog raiser wants to raise large litters, for it is the extra pigs in the litters which increase the profit in hog raising. Actually the raising of large healthy litters of pigs depends on attention to many details. On the other hand neglect and carelessness can result in heavy losses of young pigs. Why not check over the following list to be sure that the main essentials in successful pig raising will be included in your swine program? Now is the time to prepare for we are getting close to the fall pig crop. Here they are:

Good feeding of the sow before farrowing.

Warm, dry, clean farrowing pen.

A pig brooder as mentioned below.

Attention as required at farrowing time.

Clipping the needle teeth of pigs.

A nutritious milk producing ration for the nursing sow.

Treatment of the pigs with an iron compound to prevent anemia.

Creep feeding of the litter from three weeks of age until weaning.

Regular attention to the sow and the litter.

While all the above points are important for the successful raising of large litters, experience has shown that the provision of additional heat for the little pigs is really worthwhile. The Animal Husbandry Department of the Canada Department of Agriculture says that

heat lamps or electric light bulbs in the brooders at the Central Experimental Farm, Ottawa, are giving excellent results. In the luxurious warmth of the pig brooder, chilling of the pigs is avoided and they are safe from the dangers of being crushed by the sow.



Corner pig brooders help keep little pigs from getting chilled and from being crushed by the sow. The brooders must be strongly built; this one is made of 1 3/4 inch planks. The light or heat bulb should not come too close to the floor, and a guard rail should be provided around the farrowing pen.

## Deschambault Farm Day

The Provincial Farm-School at Deschambault was open to the public last month and over 600 farmers and their families took advantage of the opportunity to see what goes on at this experimental and demonstration farm operated by the provincial government.

The farm first came into being in 1918, when property was bought by the government to establish a nursery to grow ornamental shrubs and fruit trees. Soon field crops and livestock were added, and in 1940 a horticulture division was set up also. Here, on 18 acres, are growing numerous varieties of small fruits and vegetables which are carefully checked to determine which are most suitable to Quebec conditions. Seed of Quebec 5 and 13 tomatoes is being multiplied for distribution to farmers who need these early varieties. In the same way, good strains of strawberries and raspberries are kept and plants and canes are supplied to growers who propagate them further. Melons, potatoes, medicinal plants, etc. are also under test on the farm.

In its livestock programme, the Farm-School aims to supply breeding stock of the highest quality to farmers. At present the Farm has over 100 dairy cattle, 40 horses of the Canadian breed, raises about 250 hogs each year from its 15 brood sows, and owns a flock of Northern

Cheviot sheep to supply rams for distribution for crossing with the Leicester ewes owned by the breeding clubs producing market lambs from this cross. The farm property consists of 350 acres, of which 130 are in pasture and the rest, except for the 18 acres in the horticulture section, is used for field and forage crops.

The field day programme included judging and other demonstrations, with particular attention paid to methods of reducing cost of production of farm products, and a trip around the farm. Judging contests open to anyone were a feature and included classes of dairy cattle, horses and hogs, and over twenty lucky winners received prizes. As happens at other such events, more amateur judges made perfect scores than there were prizes for, and drawing by lot had to be resorted to.

Minister of Agriculture Barre was an interested visitor to the event and among others noted were J. A. LeBlanc, who is president of the Canadian Cattle Society of Quebec; Maurice Halle, secretary; J. P. Fleury of the Federal Services; Armand Ouellette and Marc Dionne of the Quebec Livestock Service, Adrien Morin; Antoine Roy, agronome for Portneuf County; Dr. Vigneault of the Health of Animals Branch at Quebec; Mayor Gauthier and Cure Laliberte of Deschambault.





## THE WOMEN'S INSTITUTES SECTION

*Devoted to the activities of the Quebec Institutes  
and to matters of interest to them*

### The Honour Roll



Mrs. Cedric L. Cotton, one of the oldest, if not the oldest member of the Q.W.I., died at Cowansville this summer. She was in her 97th year.

Mrs. Cotton was born in Dunham, living there until her marriage. Since that time her home has been in Cowansville.

She was the first president of the Cowansville W.I., organized in 1911 only a few weeks after the first one at Dunham, and as long as her health permitted she always took a keen interest in its work.

In the picture Mrs. Cotton is shown with her daughter, Mrs. K. C. Winser, who has been an active member of the same branch for many years.

### Notes From The Office

W.I. members will be interested in the following letter. Writing to Judge Heon, Chairman of the Commission studying agricultural problems (Committee of Inquiry for the Protection of Farmers and Consumers) to ask when we could release the brief for publicity this rather flattering reply was received:

"This letter will serve as your authority to release for publicity, as and when you see fit, the contents of the brief presented to the Committee by the Quebec Women's Institutes.

The Institute is also hereby warmly congratulated for the painstaking research it undertook to obtain the data submitted to the Committee and the tenor and presentation of the brief itself; this however, is quite in order since the W.I. has long enjoyed a very high reputation for civic spirit and unselfish devotion to the cause of agriculture."

The August meeting of the Q.W.I. executive was a very busy one. An item of importance was the brief which all provinces are asked to submit on the question of a National Convention. This was discussed under headings given in a questionnaire, which had been received from the F.W.I.C. At the annual board meeting

this June, county presidents were asked to canvass the branches on this proposal. A large majority favoured the idea but all add it will need much study. The executive appreciates the co-operation given by the board and says a most sincere "thank you for your help".

Greetings were sent in the name of the Q.W.I. to the Jubilee Guilds, Newfoundland, on the occasion of their first provincial convention. A "thank you" has been received from Miss Anna Templeton, Organizing Secretary. In it she mentions the first convention was most successful, members thrilled at this opportunity to meet the national president, Mrs. Adams, who visited the gathering, and the whole thing encouraging and inspiring.

Miss Campbell's resignation from the Q.W.I. staff became effective in August. She has given outstanding service during her four years in W.I. work and her departure leaves a gap that will be hard to fill. She will always be remembered as the demonstrator who brought the art of painting to so many of the members. From its inception the class, "Painting for Pleasure" was a success, proving to be one of the most popular courses ever offered to the members. The best wishes of all in the Q.W.I. go with Miss Campbell, now joining the staff of the School of Household Science, Macdonald College.

A judge has now been secured for the Village History section of the Tweedsmuir Contest. Mrs. Keith Beattie, of the Sherbrooke High School Staff, has kindly consented to undertake this responsibility. Judges for the other two sections were announced at the Convention: Painting, Miss Betty Jaques, Art Specialist, School for Teachers, Macdonald College, and the outfits for six-year old girl will be sent to the Home Economics & Handicrafts Division, Quebec.

Miss Hatch, provincial convenor of Education, hopes there will be many entries in all classes of the Competition this time. First and second prizes are being offered in each section of the Provincial elimination contest and all entries must be in the Q.W.I. office by Feb. 1st, 1955.

The A.C.W.W. is running an essay contest. The title is "Our Story", and the notice goes on to say: "Will you send us an article of not more than 800 to 1,000 words on the story of your land, how long you or your forebears have worked it, and the sort of people they were? A copy of the 'ACWW History' is offered as a prize for the best entry. You must give your name and address



and your entires must reach ACWW Office, 167 Kensington High St., London, W.8, England by February 1st, 1955. The Editor's decision is final. The prize-winning article will appear in "The Countrywoman".

The N.F.W.I. (Great Britain) has just held its annual meeting in London. One of the largest gatherings yet, and attended, as usual, by the Queen Mother, herself an Institute president in Norfolk. In her address at the opening session she spoke of the wealth of happiness brought to many through "this humble and unassuming movement which now brought country women together in many parts of the world". She had found nothing imperfect or shoddy at W.I. exhibitions, and she believed the members had equally high standards for spiritual qualities.

## The Month With The W.I.

A determined effort is being made to publish the Journal earlier in the month. All material must now be in the Q.W.I. office by the middle of each month, at the latest. This means still earlier for your Provincial Publicity Convenor.

Only four reports had been received when this sudden message was received so this month's column will be very brief. Any reports coming in later will be sent in for next month so all will be used.

It is unfortunate for this month but once the adjustment is made all should be well and it will certainly be more satisfactory to have our Journals arriving in the month for which they are dated. So, please continue to keep your coming along promptly.

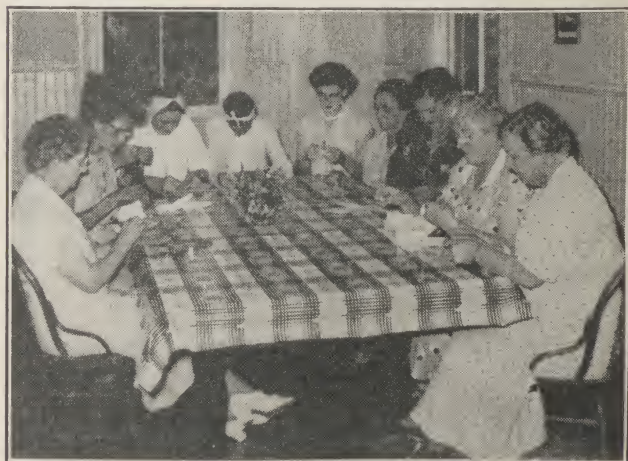
**Mégantic:** *Inverness* had the usual busy meeting which was followed by packing a box of clothing for Korea.

**Missisquoi:** *Cowansville's* meeting took the form of a picnic held at the cottage of Mrs. P. Rowe, Lake Memphremagog. Mrs. Gibson read an article on "Ceylon" and a discussion on desirable places for spending a holiday was held. *Fordyce* had items given by various members: Mrs. J. Moore told of the new women's association in the Gold Coast; Miss G. Jones, Home Economics convenor, called attention to National Salad Week, and Mrs. J. Syberg spoke of the high regard for Women's Institute as expressed by the Queen Mother. The surprise parcel was won by Mrs. C. Longeway. *Dunham* heard a paper on "Polio", given by Mrs. Turner, convenor of Welfare and Health. *Stanbridge East* had a talk on ACWW Conference by Mrs. G. D. Harvey 1st vice-president, Q.W.I. Highlights of the recent conventions of the N.B. and P.E.I. W.I. were read and a paper, "What Publicity Means", was given by the Publicity convenor. This being "Guest Day" each member had one or more guests attending the meeting.

**Pontiac:** *Clarendon* had a discussion on the motto for the month, "Kindness" is the oil that keeps the hinges from rusting". Articles were brought in for the fish pond.

The rollcall was answered by each member donating a penny for each inch of waist measure, and cash donations were voted to purchase supplies and materials for the Pontiac County Hospital. *Quyon* made arrangements to assist the Ground Observors Corps and arrangements are being made to have a landscaping demonstration at the Town Hall. A Library Committee was appointed. A pertinent reading, "Ideas for a Good Citizen", was given by Mrs. W. Reynolds. *Shawville* had donations of food amounting to three large cartons, which were packed and sent to the Brookdale Orphanage and \$75 was donated to the Cemetery Fund. *Stark's Corners* held their annual grandmothers' day with seven grandmothers and one great grandmother attending. Bathrobes made and mended for the Pontiac Community Hospital and five plastic pillow covers made were also reported.

**Richmond:** *Cleveland* had a talk on "Mental Health", given by Mrs. E. Taylor, convenor of Welfare and Health. Cotton was collected for the Cancer Society and a sunshine basket sent to a shut-in. *Dennison's Mills* held a discussion on Home and School. An ice cream lawn social, held at the home of Mrs. Ira Patrick, increased the funds by \$35.14. *Richmond Hill* bought new chairs for their hall and held two quiltings. Prizes are to be given to Grades V and VI of the St. Francis High School and squares are being knit for quilts for the children of Greece. The fair booth was discussed and \$5 voted for fair prizes. *Richmond YWI* held a contest on naming magazine covers. A tea was planned, a gift sent to a new baby, and \$10 given to the Q.W.I. Service Fund. *Shipton* packed a box of books and magazines for the Wales Home. The sale of an electric clock brought \$44.75, which is to be divided between the Polio and Cancer Funds. A special prize was awarded to a pupil in Home Economics at the High School by Mrs. C. Harris, convenor of Home Economics. *Spooner Pond* had a demonstration on cake decorating by Mrs. John Assin. A letter outlining the contest on "Photography on Nutrition" was read by



The glove-making course at Melbourne Ridge. Attendance was good and the interest was keen. The classes were held in the W.I. Hall.



Mrs. A. Stimson, and 20 song books were purchased. Articles for the W.I. booth at Richmond Fair were collected. *Melbourne Ridge* heard two papers on "Citizenship", read by the convenor, Mrs. E. Nelson. A report on the glove making course was given and several finished gloves were displayed. A card party netted \$13 and the hand made mat donated by Mrs. N. Taber will be sold to swell branch funds. A gift was presented to a departing member.



The spirea hedge in full bloom makes a beautiful background for this picture taken at the Convention. Left to right are Mrs. J. W. Westover, president of the Brome County W.I., Mrs. G. Brown, Provincial Convenor of Agriculture, and Miss Jean H. Ritchie, the Howick delegate.

**Argenteuil:** *Arundel* held its meeting at the Boys' Farm, Shawbridge, with a large attendance and several visitors. The annual School Fair was discussed and a national convention. (Branches have been asked to express opinion) A social netted the sum of \$305.48. *Lakefield* held a Military Whist, instead of the monthly meeting, and a bazaar and food sale was a success, socially and financially. *Mille Isles* also discussed the question of a national convention. A button-hole making contest was held. *Upper Lachute-East End* sponsored a dance which was well attended by members from several other branches. The net sum realized was \$90.85. Again we find the national convention being discussed.

**Bonaventure:** *Black Cape* held an impromptu concert, earning the sum of \$50 for W.I. funds. *Port Daniel* is preparing for a course in glove-making. The annual tea and sale netted \$76. *Restigouche* reviewed items discussed at the time of the visit of Mrs. H. G. Taylor. Plans were made for a sale of home-cooking. *New Richmond* heard a report of the Provincial convention by the county president, Mrs. John Campbell, and the county convention was reported by Mrs. Nevin Willett.

**Brome:** *Abercorn* heard a paper, "How a Newspaper Gets Its News", read by Mrs. Hoyt. A donation of remnants has been received from Bruck Silk Mill and the sum of \$10 was voted the Cecil Memorial Home in Austin. Plans were made for a supper and sale. *Austin*

completed plans for the annual Garden Party. The buying of a vacant school to be used as a Children's Recreation Centre was discussed, also putting water into the Community Hall now operated by this branch. *Sutton* donated \$10 to the Cecil Memorial Home in Austin. *South Bolton* is knitting more socks for Korea and articles are being made from remnants received from Eaton's and Simpson-Sears, Toronto.

## Planting For Modern Homes

Gardening fashions change with changes in architecture and living habits. So, with the increasing use of the automobile in winter and the advent of the "ranch house" fifty foot lots, our ideas of suitable planting must change.

The principles of using plants to extend the lines of the house so that house and garden form one harmonious picture and of providing special interest at strategic points, still hold firm. The only change comes in the type and size of plant used to achieve the end result.

Winter driving requires snow to be piled high near drives and streets. Evergreen plantings, except a few low spreaders like Japanese yew and horizontal juniper, will not stand such treatment. Instead of groups of tall or middle height shrubs at the corners of intersecting roads, we must now use low spreading shrubs, or herbaceous things like peonies. The most suitable hedge for such a spot is amur river privet formerly considered too tender for any place colder than Toronto. It is stiff and snow piled on top acts as a good protection against winter.

Most of our formerly popular shrubs are too tall to be used around the low spreading, flat roofed bungalows that are being built. Planting may be done further from the walls to avoid the drip from overhanging eaves. Low mounded or spreading forms seem to be more suitable than more erect ones.

Among evergreens the rounded forms of mugo pine and globe cedar, the spreading forms mentioned above, and the broad pyramids of dwarf varieties of spruce are the most suitable. The broad windows, close to the ground require low spreading ground covers to be used, such as pachysandra in shade or horizontal cotoneaster and Euonymus vegeta in sun. Low clipped hedges of barberry, Korean box or alpine currant are effective and match the house lines well.

Small trees such as weeping mountain ash, camperdown elm, Japanese lilac and rosybloom crab, are most suitable but larger shade trees look out of proportion except at considerable distance from the house

As with all changes, it will take us some time to adjust ourselves to these new fashions and in the process mistakes may occur. It is always wise to plan carefully on paper before doing the actual planting.



## Professional Status For Teachers

by J. M. Paton\*

THERE has probably never been a time when our publicly supported educational system was not under fire from one quarter or another. That is to be expected. No human institution is perfect, and it is a good sign when Canadians are sensibly and constructively dissatisfied with that most important of all public services, the school.

Criticism of our schools appears to be on the increase at the present time. This may be in part the result of the interest aroused by Dr. Hilda Neatby's "indictment of Canadian education" which first appeared in the fall of 1953. But I think it is mainly because we are actually confronted today with a serious dilemma in public education. The dilemma may be put in the form of a question.

*How can the democratic demand (and the present urgent need) for more and better schooling for more people be satisfied, when the supply of qualified teachers falls far short of requirements, and when the taxpayer is faced with rapidly rising school costs without any apparent (to him) guarantee of improvement in the quality of the product he is paying for?*

### The Effective Remedy

While there is of course no single and simple solution for this dilemma, it is the thesis of this article that the only really effective and lasting remedy lies in the attainment by the teaching body of full professional status. By professional status I mean (a) standards of preparation for a teaching certificate comparable to those required in other learned professions; (b) a truly professional job done in every classroom every day; (c) full professional recognition of teachers, as individuals and as members of their professional association, by parents, school boards, and the provincial authority; and (d) a professional standard of remuneration for all teachers regardless of the size and location of the school.

What is the situation at present regarding teacher supply and certification?

It cannot be said that there are many Canadian children who have no school to go to because no one can be found to take charge of a classroom. By means of emergency devices, chiefly the employment of half-trained or totally unqualified persons, schools are kept functioning and the children in isolated areas receive some kind of schooling. In Protestant Quebec, where happily we have refrained from introducing short-term training courses for "teachers", the number of unqualified persons granted teaching permits is being steadily reduced. Consolidation of schools has helped in some areas, and in many others the required number of qualified people have been brought from other provinces or other countries.

Nevertheless, the fact remains that we are not training nearly enough student-teachers of our own to staff all our Protestant schools in this province. In 1953-54, for example, Protestant school boards received permission to engage 113 persons with no training as teachers, and 170 teachers trained elsewhere, a total of 283 persons required (9% of the number engaged in all our schools) whom our own training colleges were unable to supply. In view of the increasing school population, particularly in urban areas, we have no reason to be complacent about these figures.

### Standards Too Low

Still less ought we to be pleased about the low standards of teacher certification which we are compelled by circumstances to retain. Dr. M. E. LaZerte, retired Dean of the Faculty of Education in the University of Alberta, estimated five years ago that the educational and professional preparation of Canada's 90,000 teachers averaged something less than Grade XII or senior matriculation; whereas the six professions of law, medicine, dentistry, pharmacy, engineering, and accounting required an average of  $4\frac{1}{2}$  years beyond senior matriculation. Conditions have improved only a little since that estimate was made. One or two provinces now require, in theory only, the equivalent of a college degree for the receipt of a permanent teaching diploma. In actual practice throughout Canada, it is still possible for a teacher to be qualified after one year of training beyond senior and (in some places, including Quebec) even junior matriculation.

How can we expect our schools to do the difficult and highly professional job required of them and demanded by the complexities of modern life, when so many teachers are not professionally qualified in the sense that other professions use that term? The answer, it seems,



Though there are more teachers in training this year than ever before, the supply is still not equal to the demand.

\*Executive Director, Provincial Association of Protestant Teachers of Quebec.



is that the most vocal of the critics of the school curriculum, of teaching methods, and of school administration, are usually far removed from the practical problem of finding and paying teachers. And, unfortunately, those who are concerned with school costs too often (though not always) think of the satisfactory teacher as any nice young girl who likes children and can keep them quiet.

### Conflicting Demands

Something of the complexity of the task facing the modern school may be realized from the criticisms we hear most frequently. Over the years the demand has increased (fully understandable in a democracy) for equal educational opportunities for all children. To meet this demand, schools must endeavour to train the many to negotiate academic hurdles formerly set up only for the few. When too much attention is, in consequence, paid to the average and the slow by the majority of teachers, the cry goes up that our best minds are being sacrificed to the cult of mediocrity and that our supply of leaders is threatened.

To complicate matters still more, two additional and important criticisms are made which are difficult to rectify at one and the same time. One is that we are not teaching the fundamental skills accurately and thoroughly enough, and that we must produce more and more efficient technicians, scientists, and engineers if we are to maintain our position of leadership in the industrial world. The other is that we are starving the souls of our students by neglecting the humanities, with the result (so the indictment runs) that young people do not make good use of their leisure time and fall prey too readily to the tensions and fears of this increasingly tense and fearful age.

### A Solution Is Possible

At first sight it would seem that all this constitutes a hopeless labyrinth of conflicting aims through which it will be impossible to find a guiding thread of positive action. That conclusion of despair we must refuse to accept.

In the first place, educational and psychological research has discovered a great deal about the nature of learning and will continue to do so. We now know, for example, that the Three R's can be taught as effectively (from the standpoint of results) as they were fifty years ago, but in less than half the time. The people who want, in the name of efficiency, to return to the narrow curriculum and the grinding methods of 1900 simply don't know what they are talking about. Continued research and study in school organization and in every phase of the learning process are quite capable of finding solutions to the apparent dilemmas of quality and quantity and of culture and technocracy in education already described. But — and this is the all-important point — theoretical solutions will avail us nothing if we have not in the schools to apply the new theories an adequate number



Teachers-in-training watch a demonstration lesson. Last year more than 100 persons with no formal training as teachers were engaged by school boards so that classrooms could be kept open.

of well-educated, well-trained, professionally competent teachers.

In order to attract to teaching the best of our young people, and in order to retain the best of those now in the profession, the public attitude towards schools and teachers must improve. Teachers are themselves partly to blame for the low esteem accorded to them among the professions; but, as I have tried to show in this brief article, our entire conception of the teacher in Canada — the education and training required, the complexity and importance of the task, and the level of remuneration required — must undergo a radical upward revision. The same thing is true of university teachers, especially in the matter of financial rewards, but the topic at the moment (and the urgency) is in the field of school teaching.

The objectives I have described are in essence the aims of every teachers' organization in Canada today. There are times, I am sure, when people become a bit tired of hearing that teachers are dissatisfied with their salaries, or that a teachers' association (like the P.A.P.T. in Quebec) is asking school boards to institute salary scales or to adopt dignified and just methods of terminating a teacher's contract. Organized teachers' groups are just as much concerned about their members conducting themselves professionally at all times and doing a highly competent job in the classroom. We long for the day when, as in medicine, so many young men and women will want to be teachers that we can select only the best prospects and insist upon an adequate period of preparation.

These changes will cost money, and the taxpayer, whether municipal or provincial, will have to be convinced that the need is great. In the long run people are usually willing to pay well for what they think they must have. Surely a good education for every Canadian child is one of these desired essentials.





## THE COLLEGE PAGE

### The Macdonald Clan

*Notes and News of Staff Members and Former Students*

## Another First For The College

One of the interesting peace-time uses for radio-active materials is in biological science. These substances, when mixed with fertilizers or feeds, give off rays while they are in the plant or the animal body, and by checking this radiation scientists can determine how fast and how far the feed or fertilizer has travelled since it was picked up by the roots, or eaten, as the case may be.

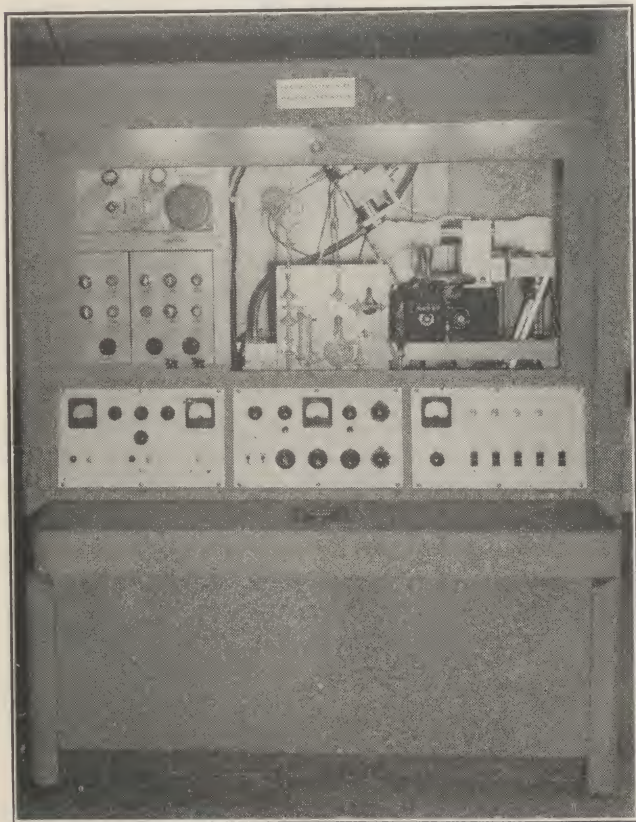
Some materials, however, cannot be made radio-active. Nitrogen is one of these, and the usual "tracer" method falls down when nitrogen is involved. But there is a way of tracing nitrogen, based on the fact that this element is made up of two different types of atom, similar

in all respects except weight. The percentage of each type of atom in normal nitrogen is well known, and when the scientist wants to trace the progress of nitrogen in a fertilizer through the plant body, he makes up a fertilizer containing nitrogen with a slightly altered ratio of the two types of atom. This is applied to the soil at seeding time, and when the plant has matured the nitrogen in it is measured by weighing it, atom by atom.

This weighing is not done with scales or balances, but with a complicated magnetic and electronic instrument called a mass spectrometer. The one at Macdonald College is the only one in Canada set up specifically for agricultural research. It is located in the Physics Department and is operated for various other departments of the College by Prof. W. F. Oliver, Chairman of the Tracer Committee. It was purchased with funds contributed by the National Research Council, Canada Packers, Massey-Harris-Ferguson Ltd, International Harvester of Canada, and Mr. Walter M. Stewart.

Admissions to the School for Teachers for the new session are well over the 300 mark and the School this year is larger than it has been since the course was first offered at Macdonald College in 1907. While we are still not training enough teachers to meet the demands of school boards, it is gratifying to see that progressively more and more young people are becoming interested in teaching as a profession, and it is to be hoped that this trend will continue.

But while those who are searching for teachers to take over classrooms in schools all over the province are happy about the situation, those of us at the College who are faced with problems of accommodation are a little less so. We do not have residence accommodation for so many women students, and though the commuting programme organized by the Montreal School Board relieves the situation to a considerable extent, there are still a large number of girls who are rooming outside the College. Extension of our residence facilities seems to be the only solution to the problem.



The isotope ratio mass spectrometer, built by Consolidated Engineering Corporation of Pasadena, California, which is set up in the Physics Department at Macdonald College.



## Work At The Things You Can Do Best

Canadian farmers can increase their profits by concentrating on the things they and their farms are best suited to produce: every farm activity should fit in with the production of the item that is a farmer's main source of revenue.

Specialization is important today, because farmers can no longer rely on their farms to produce most of the things a farm family needs or wants. Now, farmers depend for their livelihood on the profits from the sale of farm produce.

This "new farming era" makes it more important than ever for farmers to be good business managers. The demand and scope for good managers are greater in farming than in any other business.

All farmers tend to receive the same price for their produce so the farmer with the lowest costs would make the most profits.

While there were three ways in which farmers could get better prices — by improving the quality of their produce, by keeping a record of seasonal price changes and selling when the price is likely to be highest and by selling through regular channels — most farmers had more control over their costs than over their prices.

One of the reasons for the big variation in farm income, even within the same district, is that some farmers are more efficient managers than others and manage to keep their costs down.

As a guide to the efficiency of farm management, farmers should check the average crop and livestock yields in their areas. If they could better these averages by one-third, they would be sure they were using their farm and their resources to the best possible advantage.

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## Dub The Cockerels...

Dubbing refers here to the removal of the comb and wattles. Dubbing the cockerels, particularly those that are to be held over winter, is recommended for several reasons.

The principal reason for dubbing males that are to be held over winter, is to avoid freezing of the comb and wattles, an injury that renders the bird useless as a breeder for from two to four weeks.

Dubbing may be done at any age. However, until the comb and wattles have developed enough that the operator can grasp and hold them conveniently, proper removal is difficult and the operation takes longer.



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